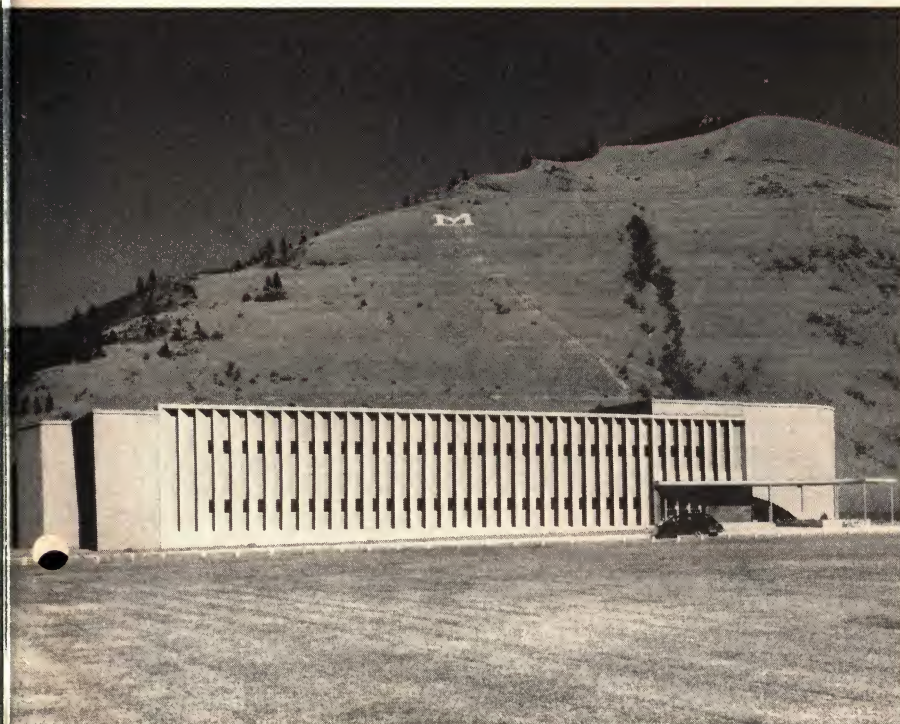




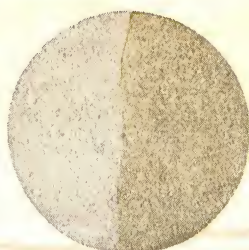
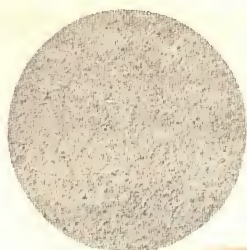
INDIANA LIMESTONE



Montana State University, Missoula, Montana



Veterans Administration
Research Hospital, Chicago, Illinois



**THE NATURAL BUILDING STONE THAT ENHANCES
MODERN OR TRADITIONAL ARCHITECTURE**

**INDIANA
LIMESTONE
COMPANY, Inc.**

**B e d f o r d ,
I n d i a n a**



the story of INDIANA LIMESTONE

The story of Indiana Limestone began thousands of years ago when billions of minute marine animals died and their bodies were compressed by earth movements into what is known as "Oolitic" Limestone. Ilco Limestone is of this particular type and has become famous throughout the United States for its beauty, durability and distinctive appearance.

Found almost wholly within three Indiana counties: Lawrence, Monroe and Owen, Ilco Limestone has been used in the construction of many famous buildings—The Triangle Group in Washington D.C., Pentagon Building, Empire State Building, Chicago Tribune Tower, Radio City and Washington Cathedral are but a few of the architectural masterpieces. Practically every town in the United States contains at least one building made of Ilco Limestone.

PHYSICAL CHARACTERISTICS

1. COMPOSITION AND STRUCTURE

Indiana Limestone is the type of rock termed by geologists as Oolitic Limestone. It is a calcite cemented calcareous stone formed of shells and shell fragments, practically non-crystalline in character. It is characteristically a free-stone without cleavage plane, possessing a remarkable uniformity of composition, texture and structure and equality of strength in all directions regardless of the plane of its natural bed. It possesses a high internal elasticity, adapting itself without damage to extreme temperature changes and other prerequisites of permanence demanded in modern building structures.

2. The average analysis as developed by carefully prepared composite samples is given below.

	Buff	Gray
Carbonate of Lime	97.39	97.07
Carbonate of Magnesia	1.20	1.20
Silica	.69	.80
Alumina	.44	.68
Iron Oxide	.18	.12
Water and Loss	.10	.13
WEIGHT	100.00	100.00

3. The average weight of dry (seasoned) Indiana Limestone is 144 lbs. per cubic foot.

4. STRENGTH-RECOMMENDED VALUES

This data is taken from information developed by tests made at the Bureau of Standards in Washington.

a. **Crushing strength.** The crushing value for seasoned stone varies from about 4,000 to 7,000 lbs. per sq. inch, averaging close to 5,000 lbs. per sq. in. Taking this value at 4,000 lbs. per sq. in. for any of the grades is conservative and sufficiently close for all practical purposes.

b. **Tensile strength.** The tensile strength for seasoned stone varies from 300 to 715 lbs. per sq. in., averaging 535 lbs. per sq. in. Although

stone seldom, if ever, is used in tension, using a factor of safety of ten (10) with the above average results gives a conservative working value of 50 lbs. per sq. in.

c. **Transverse strength.** The modulus of rupture varies from about 900 to 1,600 lbs. per sq. in., averaging approximately 1,250 lbs. On this assumption, with a safety factor of ten (10) a working stress of 125 lbs. per sq. in. is applicable to the design of lintels and similar "stone beams."

d. **Shear.** The shear tests were confined to representative samples of grades, based upon the crushing and other tests, that were sufficient to show a full range of the product. These tests were made on the stone in three directions and the average taken for the figures below. The shear developed ran from 900 to 2,300 lbs. per sq. in. for all grades tested, averaging 1,600 lbs. per sq. in.

e. **Elasticity.** The coefficient of elasticity has been established at 4,400,000 lbs. per sq. in.

f. **Expansion.** The coefficient of expansion has been established as .0000027 in. per degree Fahrenheit.

5. FIRE RESISTANCE

Indiana Limestone is to all intents and purposes fireproof. It calcines above 1,500° F. and it will not spall, crumble, split nor check when drenched with cold water.

6. COLOR

Indiana Limestone is marketed in two color-tones, each of varying shades called "Buff" and "Gray" and in an irregular mixture of the two called "Variegated."

GRAY — The Gray is a silvery gray stone with a slightly bluish cast.

BUFF — The Buff varies from a very light creamy buff or buff-gray to a distinct brownish-buff.

VARIEGATED — Consists of both buff and gray stone with some pieces containing both color-tones.

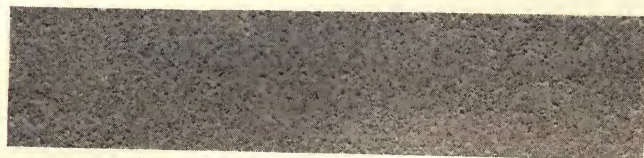
GRADES OF ILCO INDIANA LIMESTONE

The conventional grades of Indiana Limestone, Select, Standard and Rustic are classified by their fineness of grain. The cuts on this page show the limits of fineness separating Statuary, Select, Standard and Rustic. Statuary includes only the finest grain stone (A); all stone between the fineness A and B is graded Select; between B and C as Standard and between C and D as Rustic.

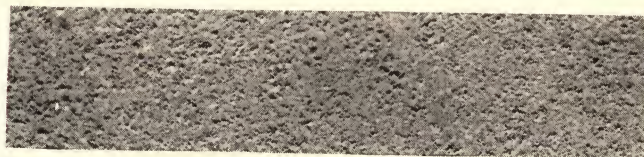
Variegated (E) is a mixture of buff and gray, ranging from Standard up through Select.

Old Gothic is a mixture of Rustic and Variegated and also includes some few stone having "Crowfeet" (F) and other marking not affecting the strength of the stone.

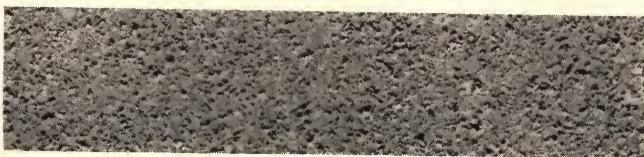
For complete description of these and other "Special" varieties of Indiana Limestone, write for our Specification Manual and/or samples of Ilco Indiana Limestone.



A



B



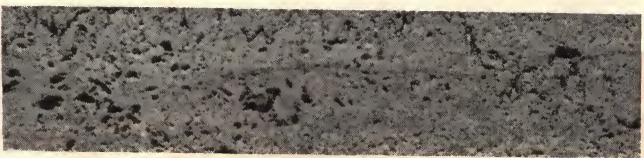
C



D



E



F

SURFACE FINISHES

Indiana Limestone in addition to the large range of grades of stone is adapted to a wide variety of standard machine and hand tooled finishes. New and special finishes are constantly being developed.

Following is a short description of the finishes most commonly used and their adaptability.

1. Sand-Sawn Finish

Description — The surface left as the stone comes from the gang saw. Moderately smooth, granular surface varying with the texture and grade of stone.

Adaptability — Adapted to the various types of ashlar or field work.

2. Rough Shot-Sawn or Chat-Sawn Finish

Description — A rough gang saw finish produced by sawing with coarse chat or chilled steel shot.

Adaptability — Particularly adapted to various types of ashlar of the coarser grades of stone.

3. Smooth Machine Finish

Description — The generally recognized Standard Machine Finish produced by the planers.

Adaptability — An economical finish where a smooth finish is desirable and appropriate.

4. Wet Rubbed Finish

Description — Sand and water or Carborundum and water rubbed for smoother finish.

Adaptability — For all parts whenever a smooth dirt and grime resisting finish is desired.

5. Honed Finish

Description — A superfine smooth finish.

Adaptability — Usually confined to fine interior work.

6. Machine Tooled Finishes

Description — Customarily are four, six or eight parallel, concave grooves to the inch.

Adaptability — Used principally on ashlar surfaces with mold work finished smooth.

7. Carborundum Finish

Description — Very smooth. Produced by a Carborundum machine instead of planer.

Adaptability — May be specified for flat surfaces and for moldings.

8. Plucked Finish

Description — Obtained by rough planing the surface of stone, breaking or plucking out small particles to give rough texture.

Adaptability — Often used as finish on cut stone trim with facing of Ilco Shot-Sawn.

9. Other Finishes

Many other machine and hand-tooled finishes are available. Complete information on these and much additional information on those listed is available by writing Ilco Service Department.

how to use **ilec** Indiana Limestone economically

All Indiana Oolitic Limestone regardless of Grade is equally strong for all practical purposes.

There is a grade, color and finish economically adapted to every class of work from the finest monumental structure to the simplest stone front. Proper selection of the grade is of paramount importance and in the exercise of good judgment in this respect lies great economy, with no lessening of beauty and permanence.

rustic

The least expensive grade, owing to its varying texture and pleasing color variation, can be used to good advantage for many features, for complete facing, or for facing above "Standard" Stone. The use of "Rustic" for isolated sills, factory sills and coping is definitely practical. It is especially recommended where Shot Sawn or rough finish is desired. Always consider "Rustic" for a structure before specifying another grade.

variegated

Another less expensive grade, is sound and durable with distinct color tone and moderate range of texture variation. The possibility of its use is always recommended in combination where "Standard Buff" or "Standard Gray" Stone is used for entrances or features.

standard gray or standard buff

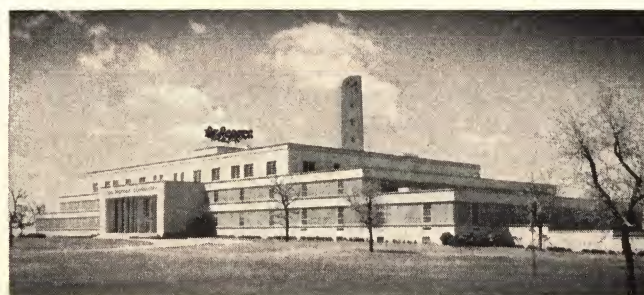
Has certain variations in density, color tone and texture. However, these variations are much less pronounced than in "Rustic" and "Variegated" Stone. Its use is recommended where general uniformity is desired as in entrances, other ornamental features and wall facing for first and second stories of buildings. Its use is not recommended for Shot Sawn or other rough finishes as "Rustic Buff" or "Rustic Gray" will give equal result.

select buff or select gray

Embraces the finest grained stone and it is recommended that it be used in special cases for entrance **façades**, carved and sculptured stone, or where cost is not a prime factor. Remember all Indiana Oolitic Limestone, regardless of grade or color is structurally sound and averages the same compressive and transverse strength. Careful selection will warrant the use of less expensive grades of stone in most cases, thus obtaining an equal result at the least cost.



New State Department Building,
Washington, D. C.



Dr. Pepper Company, Syrup Bottling Plant and Office,
Dallas, Texas

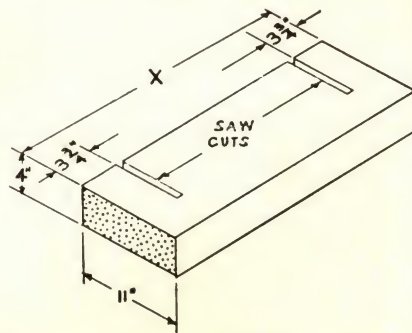


St. Columba's Church,
St. Paul, Minnesota

STOCK ITEMS

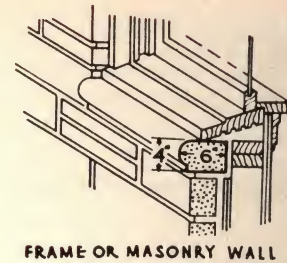
No. 1 DOOR SILLS

ilco door sills used in all types of construction add quality and durability to any architectural design.



No. 6 BULL NOSE SILL

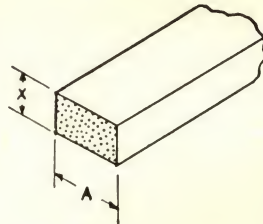
The ilco bull nose sill with its rounded face is more distinctive and neater in appearance.



FRAME OR MASONRY WALL

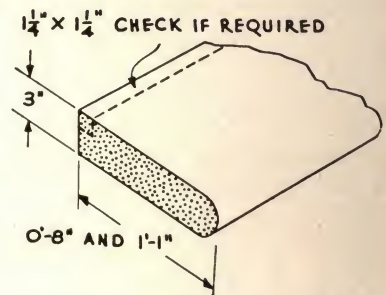
No. 2 SILL STOCK

Use for window sills, water table and belt courses. ilco sill stock is impervious to weather.



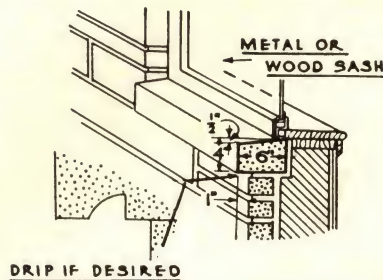
No. 7 BULL NOSE STEP

Use for a safe, long wearing, attractive tread. Perfect for mantels and shelves as well as steps.



No. 3 WASH SILL

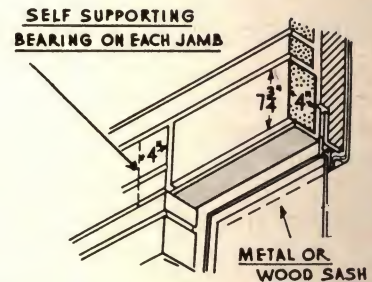
Machine dressed for use with metal or wood sash—drip if desired.



D RIP IF DESIRED

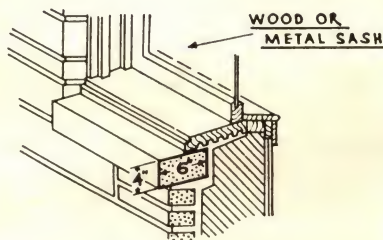
No. 8 LINTELS

Self-supporting or carried by steel angle, ilco lintels can be used with metal or wood sash.



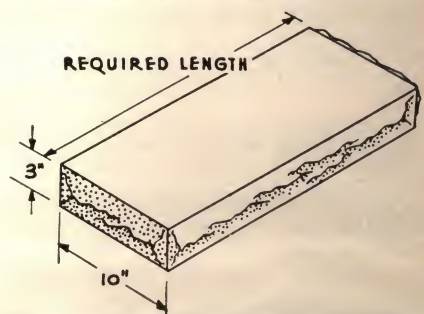
No. 4 BEVEL SILL

ilco bevel sills for use with wood or metal sash. Sets 1/2" slope top and bottom.



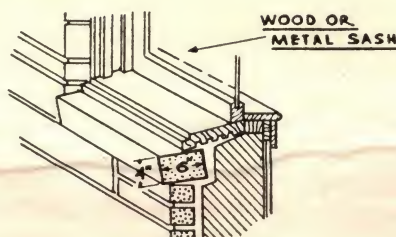
No. 9 MANTELS

ilco mantels, hand pitched on front and each end, are cut to the required length.



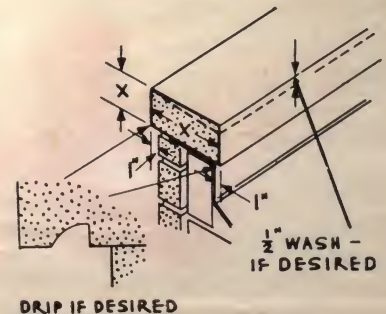
No. 5 RECTANGULAR SILL

Can be set at any desired slope.



No. 10 WALL COPING

ilco wall coping is available sawed or machine dressed and with wash and drip, if desired.



D RIP IF DESIRED

specifications for **ilco** cut Indiana Limestone

1. work included

The work under this contract shall include all labor and material for the furnishing of cut Indiana Oolitic Limestone in accordance with the drawings and as hereinafter specified.

2. description of stone

All Limestone specified or shown on drawings shall be Indiana Oolitic Limestone building stock, as quarried in Lawrence and Monroe Counties, free from all defects that would materially impair its strength, durability or appearance, and within the range of variation of color and texture represented by two samples approved by the Architect.

Stone shall be _____
(Specify Grade & Color)

grade, _____ finish.
(Specify Finish)

Specially graded stone, acceptable as to hardness and color, as per samples to be submitted, shall be employed where indicated on drawings,

for _____
(Specify Locations)

and all other positions exposed to direct wear.

3. samples

The Contractor shall submit to the Architect, two samples about 4" wide x 7" long x 1" thick, which shall be typical of the extremes which the Contractor proposes to furnish, the finish specified to be indicated on the large faces.

4. standard practice

Insofar as these specifications pertain to the practice set out for the proper use of Indiana Oolitic Limestone, the standards established by the Indiana Limestone Industry are to govern. Bidders not familiar with these standards are cautioned to inform themselves regarding them.

The Architect reserves the right to approve the sub-contractor for Cut Stone before this portion of the work is awarded.

5. cutting and setting drawings

The Cut Stone Contractor shall prepare and submit to the Architect for approval, complete cutting and setting drawings, in triplicate, for all of the Limestone work under the contract. Such drawings shall show in detail the sizes, sections and dimensions of stone, the arrangement of joints and bonding, anchoring and other necessary details.

These drawings shall be based upon and follow the drawings and full-size details prepared by the Architect except where it is agreed in writing that changes be made. Each stone indicated on these drawings shall bear the corresponding number marked on the back or bed with a non-staining paint.

Projecting courses shall have beds in the wall at least 1" greater in depth than the projection, or be specially anchored to the structure as shown on setting drawings.

Provision for the proper anchoring, dowelling and cramping of work in keeping with standard practices, also for the support of stone by shelf angles and loose steel, etc., when required, shall be clearly indicated on the setting drawings.

6. carving and models

All carving shall be done under this contract by skilled carvers in a correct and artistic manner, in strict accordance with the spirit and intent of the Architect's sketches, or from models prepared or approved by the Architect.

7. cutting

All stone shall be cut accurately to shape and dimensions and full to the square, with jointing as shown on approved drawings. All exposed faces shall be cut true and out of wind. Beds and all joints shall be dressed straight and at right angles to the face, unless otherwise shown, and except where otherwise shown or noted on drawings, joints shall have a uniform thickness of $\frac{1}{4}$ inch.

Patching or hiding of defects will not be permitted and Lewis holes shall not be made on an exposed surface.

Washes shall be as deep as practicable and drips of sufficient width and depth to shed water shall be provided on all projecting stones and courses.

Raglets for flashing, etc., shall be cut in the stone where so indicated on the drawings.

Molded work shall be carefully executed from full-size details supplied by Architect, and must match perfectly at joints. All arrises shall be sharp and true.

8. back checking and fitting to structural frame

Stone coming in contact with structural work shall be back-checked as indicated on the general drawings. Stones resting on structural work shall have beds shaped to fit the supports.

Where stone facing adjoins steel columns and spandrel girders, the depth of stone shall be such that will allow not less than one inch between the back of the stone and face of fireproofing or reinforced structural members.

9. Lewis holes and cutting for dowels, anchors, cramps, etc.

Lewis holes shall be cut in all stones weighing more than 100 pounds. No Lewis or other holes shall come closer than 2 inches to the exposed face of the stone.

Holes and sinkages shall be cut in stones for all anchors, cramps, dowels, etc., called for under this specification or indicated on the cutting and setting drawings.

10. cutting and drilling for other trades

All cutting and drilling of stone necessary in connection with installation of work of other trades to be done by cut stone contractor only when necessary information is furnished in time to be shown on shop drawings and details and work can be executed before shipment.

11. loading and shipment

The Cut Indiana Limestone shall be carefully packed for transportation, with exercise of all customary practicable and reasonable precautions against damage in transit.

All cut stone under this contract shall be delivered promptly as ordered and in the sequence in which it is to be set.

ilco Limestone Veneer

Ilco Limestone Veneer is fabricated in random lengths ranging from one to six feet. Unselected for color or texture the stone combines varying shades of buff and gray.

Ilco Veneer is produced in three finishes: Splitstone, Shot-Sawn and Sand-Sawn. It is marketed in three standard heights which conform with brick courses. They are $2\frac{1}{4}$ ", 5" and $7\frac{3}{4}$ ". Other heights are available on order.

Splitstone is a rough, concave-convex finish and is approximately $3\frac{1}{2}$ " thick. One ton will provide about forty-five square feet of wall coverage.

Shot-Sawn and Sand-Sawn are available in either 3" or 4" thickness. One ton of 3" will cover approximately fifty square feet of wall surface; the 4" about forty square feet.

The Shot-Sawn surface presents a series of horizontal grooves, or ripples, scored on the face of the stone by using chilled steel shot in the sawing process. Some pieces will be more or less uniformly roughened like a rough textured tapestry brick; the surfaces of other pieces will be irregularly corrugated, or rippled to a degree impossible to obtain in other materials.

Sand-Sawn is a smooth-surfaced Ilco Limestone Veneer. This surface is imposed on the face of the stone by using gritty sand as the cutting agent.

Either Shot-Sawn or Sand-Sawn finish has a further advantage of widening the range of color tone. The method of sawing permits a certain amount of rust stain to develop on the surface, adding the brown tones thus obtaining to the natural color variation of the stone.

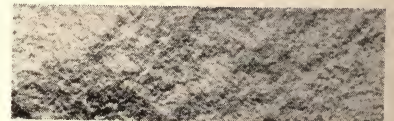
Complete information, brochures and Mason's Guide describing the use and application of Ilco Limestone Veneer for use on residences, churches, schools, motels and commercial buildings, etc., are available without cost by writing Dept. SC-2, Indiana Limestone Company, Inc., Bedford, Indiana.



Immacolata Church,
St. Louis, Missouri

SPLITSTONE FINISH

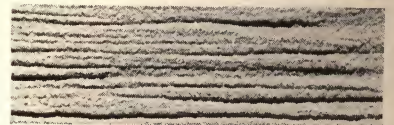
Preserves the attractive natural appearance. Creates maximum play of light and shadow.



G

SHOT-SAWN FINISH

Emphasizes long horizontal architectural lines. Popular for ranch style designs.



H

SAND-SAWN FINISH

Smoothest, most uniform finish available. Tends to appear lightest of all finishes.



I



Residence of Ilco Splitstone



the company

INDIANA LIMESTONE COMPANY, INC., the exclusive producer of Ilco stone, is the largest quarrier and fabricator of natural stone in the world.

quarry capacity

The Ilco quarries have been in operation over 75 years. The quarrying capacity (proved ledges and equipment to produce) is over 10,000 carloads annually.

mill capacity

The finishing mills are large and well equipped with a capacity for handling the largest or smallest jobs promptly and efficiently.

sales and service facilities

Sales and service offices with experienced representatives in charge are established in principal cities.

Competent draftsmen and engineers are available to assist Architects and prospective builders on problems involving anchoring, jointing and other details of fabricating Ilco Limestone.

Under the supervision of research experts, methods of cleaning and waterproofing stone work are constantly being evaluated and information on the subject is available.

Samples of any grade and finish of the Company's product will be furnished promptly on request—without charge.

INDIANA LIMESTONE COMPANY, INC. GENERAL OFFICE, BEDFORD, INDIANA

OTHER SALES OFFICES

ATLANTA, GEORGIA
2128 Piedmont Road, N.E.

CARTHAGE, MISSOURI
P. O. Box 162

CHICAGO, ILLINOIS
228 North LaSalle

NEW YORK, NEW YORK
420 Lexington Avenue

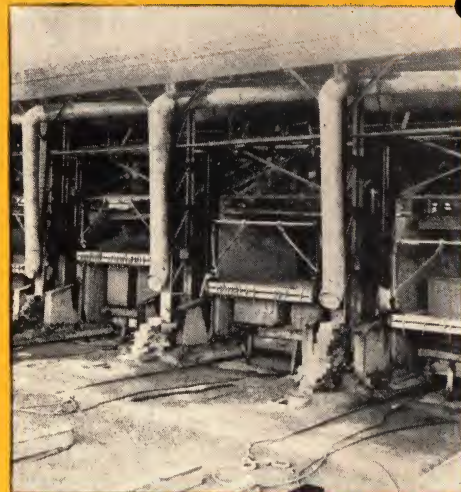
ROCHESTER 13, NEW YORK
181 Norman Street

ST. LOUIS, MISSOURI
9032 McKnight Woods

SAN FRANCISCO, CALIFORNIA
130 Lunado Way

WASHINGTON, D. C.
Trans-Lux Building
724 14th St., N.W.

TORONTO, ONTARIO
CANADA
15 St. Mary Street



Huge blocks of Ilco Limestone are cut into slabs of prescribed thicknesses by these gang saws.



Diamonds stud the cutting edge of this whirling circular saw cutting out slabs of stone.



A skilled planerman turns out detailed finishing on this circular planer at one of the Ilco mills.